

Remarks/Arguments

Claims 12-24 remain in this application. Claims 12, 14, 15, and 20-22 have been amended. Claims 1-11 have been canceled.

A. Examiner's Remarks

Claims 12, 13, and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by USPN 6,285,067 to Hyoudo et al., (hereinafter, Hyoudo).

Claims 12, 13, and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by USPN 6,229,404 to Hatanaka, (hereinafter, Hatanaka).

Claims 14-19 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hatanaka.

B. Summary Of Prior Art

Hyoudo teaches a conventional package made of ceramic or glass epoxy wherein an array of packages is formed by sealing together a substrate 21, sides 21b, and a cover 31. Then, the array is sawed apart with a dicing blade 42 to form individual packages (Figure 3A). A semiconductor device 63 contained within the package must be die-bonded to the substrate. (Column 5, line 30).

Hatanaka teaches a crystal oscillator 2 which is separated from the IC chip 3 by ceramic insulating layers 8. The entire package, except for a metal cover 6, is also made of ceramic. The IC chip 3 is connected to the package using solder or other bonding material (column 11, lines 21-25).

C. Claim rejections - 35 U.S.C. §102(e) - claims 12, 13 & 20

Claims 12, 13, and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by Hyoudo. Claims 12, 13, and 20 were also rejected under 35 U.S.C. § 102(e) as being anticipated by Hatanaka.

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Present Invention Uses Semiconductor Material For Package

Hyoudo and Hatanaka both teach conventional packages that are made with ceramic, glass epoxy, or metal - neither one teaches or suggests using semiconductor material to create the package.

In distinct contrast to either Hyoudo or Hatanaka, the present invention teaches a package made from two *semiconductor* wafers. Semiconductor wafers are not obvious choices for use in forming packages, since they are customarily used as substrates in integrated circuits. Independent claims 12 and 20 have been amended to include this unique feature.

Present Invention Has Semiconductor Device Integrally Formed Into Package Substrate

In Hyoudo or Hatanaka, the electronic device is a separate component that must be die-bonded, soldered, or otherwise attached to the substrate. The device is not an integrated part of the substrate. The device must be formed separately, and then attached to the package.

In distinct contrast, the present invention teaches a semiconductor device that is directly fabricated as an integral part of the substrate wafer (page 4, paragraph 13, line 3-4). The device can remain on the wafer while it is being packaged, whereas in Hyoudo or Hatanaka, the device would need to be sawed apart from the other devices on the wafer prior to packaging. Independent claims 12 and 20 have been amended to include this unique feature, which now recite "a device fabricated on the first semiconductor wafer".

Independent claims 12 and 20 are believed to be allowable over the prior art. Dependent claim 13 is believed to be allowable, based on the allowability of independent claim 12.

No new matter has been introduced with this amendment. The rejections to claims 12, 13, and 20 are believed to be overcome.

D. Claim rejections - 35 U.S.C. §103(a)

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Claims 14-19 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hatanaka.

Claims 14 and 15 have been amended to refer to an “elevated portion” rather than a “gasket”, to keep the terminology of the claims consistent after independent claim 12 was amended. Dependent claims 14-19 are believed to be allowable, based on the allowability of independent claim 12.

Claims 21 and 22 have been amended to refer to an “elevated portion” rather than a “gasket”, to keep the terminology of the claims consistent after independent claim 20 was amended. Dependent claims 21-24 are believed to be allowable, based on the allowability of independent claim 20.

No new matter has been introduced with this amendment. The rejections to claims 14-19 and 21-24 are believed to be overcome.

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Conclusion

If there are any further questions or if more discussion is required, the Examiner is invited to call the Applicants' agent at the telephone number given below. In view of the above, the claims presently in the application are believed to be distinct over the prior art and in condition for allowance. Accordingly, it is respectfully requested that such allowance be granted at an early date.

Respectfully submitted,
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